

### Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

#### Listing of the Claims

Claim 1 (currently amended) An episode classification system ~~including~~ comprising:

- a. a multitude of diagnosis records, each of said diagnosis records including:
  - i. ~~diagnoses~~ diagnosis information;
  - ii. time of ~~diagnoses~~ said diagnosis information; and
  - iii. patient information;
- b. a patient grouper for generating at least one patient group, ~~each patient group generated~~ by grouping patient records having similar said patient information;
- c. a diagnosis grouper for generating at least one diagnosis group ~~from a patient group, each diagnosis group generated~~ by grouping patient diagnosis records with similar said diagnosis information from [[a]] each of said patient group ~~that have similar diagnosis information~~;
- d. an episode analyzer including:
  - i. a probability analyzer for performing probability calculations, each of said probability calculations capable of generating a probability value using at least two of said multitude of diagnosis records as input entries, said probability value representing the probability that said input entries belong to a single episode , wherein each of said episode is a group of diagnoses on the same patient that describes the course of a given illness but not healthcare provided services;

- ii. [[a]] an episode grouper for grouping said diagnosis records determined to belong to [[a]] said single episode; and
- iii. a severity analyzer for performing episode severity calculations, each of said episode severity calculations capable of generating an episode severity value.

Claim 2 (currently amended) [[An]] The episode classification system according to claim 1, wherein at least one of said diagnosis records is an anchor diagnosis record.

Claim 3 (currently amended) [[An]] The episode classification system according to claim 1, wherein at least one of said diagnosis records is a trigger diagnosis record.

Claim 4 (currently amended) [[An]] The episode classification system according to claim 1, wherein at least one of said diagnosis records is a stopping point diagnosis record.

Claim 5 (currently amended) [[An]] The episode classification system according to claim 1, wherein said probability calculation:

- a. operates on a pair of said diagnosis records; and
- b. is a function of:
  - i. a similarity value, said similarity value representing the similarity between said pair of said diagnostic diagnosis records; and
  - ii. a time between diagnosis value, said time between diagnosis value representing the time between said pair of said diagnosis records.

Claim 6 (currently amended) [[An]] The episode classification system according to claim 5, wherein said probability calculation includes a probability numerator divided by a probability denominator, said probability numerator set to said similarity value times a first constant, and said probability denominator set to the quantity of a second constant times said time between diagnosis value plus one.

Claim 7 (currently amended) A method for episode classification using a multitude of diagnosis records, each of said multitude of diagnosis records including: diagnosis information; time of ~~said diagnoses~~ diagnosis information; and patient information; ~~including~~ comprising the steps of:

- a. creating at least one diagnosis pair from said multitude of diagnosis records, each said diagnosis pair containing a unique combination of two diagnoses information;
- b. for each said diagnosis pair, iteratively:
  - i. determining a co-occurrence value, said co-occurrence value being the number of unique patients for whom the two diagnoses contained in each of said diagnosis pairs occurred within a co-occurrence window; and
  - ii. associating said co-occurrence value with each diagnosis information contained in said diagnosis pair;
- c. creating at least one patient group, ~~each said patient group generated by grouping said diagnoses~~ patient records having similar said patient information; and
- d. for each said patient group, iteratively:

- i. creating at least one diagnosis group, ~~each said diagnosis group generated~~ by grouping said diagnosis records having ~~similarly~~ similar said diagnosis information;
- ii. for each said diagnosis group, iteratively adding a unique occurrence identifier to said diagnosis information for each said diagnosis record;
- iii. creating at least one time between diagnosis pair from said diagnosis records in said diagnosis group, each said time between diagnosis pair containing a unique combination of two said diagnosis records;
- iv. for each said time between diagnosis pair, iteratively:
  1. setting a time between diagnosis pair value for each said diagnosis pair equal to the absolute value of the difference between said time of ~~diagnoses~~ said diagnosis information from each said diagnosis record in said diagnosis group;
  2. setting a score numerator equal to said co-occurrence value having the same combination of diagnosis information as said time between diagnosis pair value;
  3. calculating a score for said diagnosis pair by dividing said score numerator by said time between diagnosis pair value; and
  4. associating said score to said diagnosis pair;
- v. setting a minimum score value equal to the minimum said score from the set of said scores associated to each of said diagnosis pairs pair in said patient group;

- vi. setting a maximum score value equal to the maximum said score from the set of said scores associated to each of said diagnosis pairs pair in said patient group;
- vii. setting a difference score value equal to difference of said maximum score value and said minimum score value;
- viii. for each said diagnosis pair, iteratively:
  - 1. setting a standardized score numerator value equal to said minimum score minus said score associated to said time between diagnosis pair value;
  - 2. setting a standardized score equal to said standardized score numerator divided by said difference score value; and
  - 3. associating said standardized score to said diagnosis pair; and
- ix. classifying each said diagnosis information into at least one episode using said standardized score, wherein each of said episode is a group of diagnoses on the same patient that describes the course of a given illness but not healthcare provided services.

Claim 8 (currently amended) [[A]] The method according to claim 7, wherein said step of classifying each said diagnosis information into at least one episode includes the steps of:

- a. flagging each of said diagnosis information in said patient group for analysis; and
- b. until all diagnosis information in said patient group is analyzed, iteratively:

- i. combining two of said diagnosis information in said patient group flagged for analysis which have the maximum said standardized scores not exceeding a preset cutoff into an episode record;
- ii. creating a new diagnosis information, said new diagnosis information representing said diagnosis information in said episode record;
- iii. calculating a new standardized score for said new diagnosis information by averaging the standardized score associated with each of said diagnosis information in said episode record; and
- iv. de-flagging said diagnosis information in said episode record for further analysis.